

REMARKS

INTRODUCTION:

In accordance with the foregoing, claims 1, 2, 14, 16, and 19 have been amended, and claims 21-23 have been added. No new matter is being presented, and approval and entry are respectfully requested.

Claims 1-23 are pending and under consideration.

ALLOWED SUBJECT MATTER

In the Office Action, at page 7, the Examiner indicated that claims 16-20 are allowed.

REJECTION UNDER 35 U.S.C. §103:

In the Office Action, at page 2, the Examiner rejected claims 1-4, 6, 12, and 13 under 35 U.S.C. §103(a) as being anticipated by Ouchi et al. (U.S. 6,299,542 – hereinafter Ouchi) in view of Yamamoto et al (U.S. Patent 6,227,979 – hereinafter Yamamoto '979) and Takemura et al. (U.S. Patent 5,411,336 – hereinafter Takemura). The reasons for the rejection are set forth in the Office Action and therefore not repeated. Applicants traverse this rejection and respectfully request reconsideration.

In the Office Action, at page 4, the Examiner rejected claim 5 under 35 U.S.C. §103(a) as being unpatentable over Ouchi in view of Krude (U.S. Patent 4,529,254 hereinafter – Krude). The reasons for the rejection are set forth in the Office Action and therefore not repeated. Applicants traverse this rejection and respectfully request reconsideration.

In the Office Action, at page 5, the Examiner rejected claims 7-9 under 35 U.S.C. §103(a) as being unpatentable over Ouchi in view of Yamamoto et al. (U.S. Patent 6,367,981 – hereinafter Yamamoto '981). The reasons for the rejection are set forth in the Office Action and therefore not repeated. Applicants traverse this rejection and respectfully request reconsideration.

In the Office Action, at page 5, the Examiner rejected claims 10-11 under 35 U.S.C. §103(a) as being unpatentable over Ouchi in view of Jacob et al. (U.S. Patent 5,580,313 – hereinafter Jacob). The reasons for the rejection are set forth in the Office Action and therefore not repeated. Applicants traverse this rejection and respectfully request reconsideration.

In the Office Action, at page 6, the Examiner rejected claims 14 and 15 under 35 U.S.C. §103(a) as being unpatentable over Ouchi in view of Ikezawa et al. (U.S. 5,630,668 – hereinafter Ikezawa). The reasons for the rejection are set forth in the Office Action and therefore not repeated. Applicants traverse this rejection and respectfully request reconsideration.

Independent claim 1 recites: "...each post-hardening cut surface having a surface roughness not greater than 0.8 as stipulated in B0601 of JIS standards."

Applicants respectfully submit that a prima facie case of obviousness has not been properly established. To establish a prima facie case of obviousness there must be a suggestion or motivation to combine reference teachings and the combined references must teach or suggest all the claims limitations. MPEP §2142.

A prima facie obviousness rejection requires evidenced motivation from some reference in the record that would lead one skilled in the art to combine the relevant teachings of the references. See In re Fritch, 23 USPQ 2d 1780, 1783 (Fed. Cir. 1992).

The Examiner asserts that it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Ouchi, Yamamoto '979, and Takemura based on a motivation that is not in the record.

Applicants respectfully submit that this is improper hindsight analysis. As stated in the MPEP, "[t]he mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination." See MPEP 2143.01. There is simply no suggestion or motivation in Ouchi or Yamamoto '979 to construct a combination with Takemura.

Takemura teaches use of rolling elements and mating surfaces having surface roughnesses in a range of from 0.15 to 0.5 μmRa when represented by central line average roughness according to JIS B0601 and the ratio between the respective surface roughnesses is 1 is 3 or less, but only under the very specific conditions in which an oil film parameter Λ , is 1.5 or smaller. (See Takemura, at col. 2, lines 16-24). Applicants respectfully note that Takemura is the only reference to disclose such a range of surface roughnesses.

Takemura notes that the oil film parameter Λ represents the degree of formation of an oil film, and that when $\Lambda \leq 1.5$, a rolling bearing is placed in a so-called boundary lubrication

state. (See Takemura, at col. 1, lines 10-32). The entirety of the teaching of Takemura is directed to oil-lubricated bearings in this boundary lubrication state.

Neither Ouchi nor Yamamoto '979 discloses using oil as a lubricant. Further, the only lubricants mentioned in Ouchi or Yamamoto '979 is grease. (See Ouchi, at col. 4 lines 7-13, and Yamamoto '979, at col. 7, lines 37-44, col. 15, lines 43-48, col. 16, lines 16-26, and col. 17, lines 16-20).

Applicants respectfully submit that there would have been no motivation for one of ordinary skill in the art at the time of the invention to combine the teachings of Takemura with either Ouchi or Yamamoto '979.

Additionally, regarding claims 2 and 3, Applicants respectfully submit that none of the cited references disclose or suggest the use of case hardening steel for the inner race or the retainer.

Applicants respectfully submit that claim 1 patentably distinguishes over the cited art, and should be allowable for at least the above-mentioned reasons. Further, Applicants respectfully submit that claims 2-15, which ultimately depend from independent claim 1, should be allowable for at least the same reasons as claim 1, as well as for the additional features recited therein.

NEW CLAIMS:

Applicants respectfully submit that new method claims 21-23 are so closely related to at least claims 1-3, that examination thereof would not impose an undue burden on the Examiner.

Additionally, Applicants respectfully submit that for at least similar reasons as those stated in the section regarding the rejection under 35 U.S.C. §103, new claims 21-23 patentably distinguish over the cited art and should be allowable.

CONCLUSION:

In accordance with the foregoing, Applicants respectfully submit that all outstanding objections and rejections have been overcome and/or rendered moot, and further, that all pending claims patentably distinguish over the cited art. Thus, there being no further outstanding objections or rejections, the application is submitted as being in condition for allowance which action is earnestly solicited.

If the Examiner has any remaining issues to be addressed, it is believed that prosecution can be expedited by the Examiner contacting the undersigned attorney for a telephone interview to discuss resolution of such issues.

If there are any underpayments or overpayments of fees associated with the filing of this Amendment, please charge and/or credit the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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